

Teenage Pregnancy Trends and Outcomes at Rapti Academy of Health Sciences, Dang District, Lumbini Province

Bikash Lamichhane¹, Basant Lamichhane², Radha Darlami³, Shishir Kunwar², Stuti Bhattarai⁴, Ajaya Raj Gautam⁵, Bishal Pokhrel⁶

¹ Vice-Chancellor, Rapti Academy of Health Sciences, Ghorahi, Dang, Nepal.

² Department of Obstetrics and Gynecology, Rapti Academy of Health Sciences, Ghorahi, Dang, Nepal.

³ Institutional Review Committee, Rapti Academy of Health Sciences, Ghorahi, Dang, Nepal.

⁴ Research Assistant, Rapti Academy of Health Sciences, Ghorahi, Dang, Nepal.

⁵ Department of Internal Medicine, Rapti Academy of Health Sciences, Ghorahi, Dang, Nepal.

⁶ Department of Community Medicine, Rapti Academy of Health Sciences, Ghorahi, Dang, Nepal.

Article Info:

Received Date: 1 Apr, 2024

Acceptance Date: 12 Jun, 2024

Corresponding Author:

Bikash Lamichhane
Vice-Chancellor,
Rapti Academy of Health Sciences,
Ghorahi, Dang, Nepal.
Email: bikash_moon1@yahoo.com

Funding sources: None

Conflict of interest: None

Access the article online



DOI: doi.org/10.70027/jrahs11

Abstract

Introduction: Teenage pregnancy is referred as pregnancy of 10–19 years teenage girls. In Nepal, adolescents aged 10 to 19 comprise 6.4 million of the population. The most common maternal complications in teenage pregnancy were hypertensive disorders, preterm birth and low birth weight. Teenage pregnancy has negative effects on the health outcomes of both the mother and the newborn. So, this study was conducted to describe the trend of teenage pregnancy and its outcome at a tertiary care hospital in the Dang district.

Methods: A descriptive cross-sectional study was conducted at Rapti Academy of Health Sciences (RAHS). Ethical approval was taken from the Nepal Health Research Council (NHRC). Five years data were retrieved from January 2018 to December 2022 from the hospital Central Admission Register and maternity register record. A whole sampling method was used to select the study sample which is 1097 records of teenage deliveries. Data entry was done in Epidata and point estimate at 95% CI was calculated in SPSS along with frequency and percentage.

Results: Out of 11784 deliveries, 1097 teenage deliveries were included as a sample of the study where maximum teenage deliveries were of 19 years (41.2%). Among teenage deliveries, almost 90% delivery were live birth and perineal tear was found in 264 teenage deliveries as a maternal complication (95%).

Conclusion: The trend of teenage pregnancy was in decreasing trend over five years in RAHS, Dang. Preterm delivery, Perineal tear, and Spontaneous abortion were common complications seen in pregnancy. Proper awareness and health education programs regarding adverse effects of teenage pregnancy might help to reduce teenage pregnancy rate in future.

Keywords: RAHS, teenage, teenage pregnancy

Introduction

Teenage pregnancy is a pregnancy in a girl who is 10–19 years of age.¹ Twenty-one million girls aged 15–19 years in developing regions become pregnant

yearly, and approximately 12 million of them give birth.² Globally, every year an estimated 3 million girls aged between 15–19 years undergo unsafe abortion and in Nepal, adolescents 10 to 19 are 6.4 million of the population.^{3,4,5}

Citation:

Lamichhane B, Lamichhane B, Darlami R, Kunwar S, Bhattarai S, Gautam AR, Pokhrel B. Trend of Teenage Pregnancy and its Adverse Outcome at Rapti Academy of Health Sciences, Dang District, Lumbini Province. *J. Rapti A. Health Sci.* 2024;1(1):33–36.

Copyright:

© Authors retain copyright and grant the journal right of first publication with the work simultaneously licensed under Creative Commons Attribution License CC - BY 4.0

In Southeast Asian countries like Nepal, early marriage and social expectation are most common.^{6,7} Teenage pregnancies are prone to adverse pregnancy events and are even worsened with decreasing maternal age.⁸⁻¹² The most common maternal complications are hypertensive disorders, induced and instrumental vaginal delivery. Perinatal complications like preterm birth and low birth weight were encountered.¹³

Health outcomes of teenage is negatively impacted in Nepal. This study will focus on describing the trend of teenage pregnancy and its outcome.

Methods

The study was Descriptive cross-sectional study. Data collection was done through Central Admission Register and maternity register at RAHS. Whole sampling method was used to select sample of teenage pregnancy aged 15 to 19 years in last 5 years duration from January 2018 to December 2022. Ethical clearance letter was taken from NHRC with Ref. No. 27 on 17 July, 2023. The inclusion criteria were teenage female of 15-19 years who delivered their baby at RAHS in between the study period. Incomplete record of teenage pregnant were excluded from the study. Data entry was done in Epidata and point estimate at 95% CI was calculated in SPSS along with frequency and percentage.

Preterm delivery was defined as the delivery at a gestational age of less than 37 weeks. Late fetal death or stillbirth was defined as death after 28 weeks of gestation. Neonatal death was defined as death occurring within 28 days of life. Gestational age was calculated based on the last menstrual period or using ultrasound.³

Results

Finding report on Trend of Teenage pregnancy

In last five years from January 2018 to December 2022, there were total 11784 pregnancies recorded in Rapti Academy of Health Sciences, among them 1732 were teenage pregnancies. As per study criteria, the study only included teenage pregnancy of 15-19 years with complete information. Hence, the study includes 1097 teenage pregnancy record as sample size.

Table 1 show that there is visible change in trend of teenage pregnancy in different years. In five years picture, 476 teenage pregnancy occur in 2018 while it reduces with years and in 2022, 196 teenage pregnancy recorded in RAHS.

Table 1: Trend of Teenage Pregnancy

Year	Teenage pregnancy	
	Frequency (n)	Percentage (%)
2018	476	43.4
2019	188	17.1
2020	151	13.8
2021	86	7.8
2022	196	17.9
Total	1097	100

Table 2 show that maximum number of teenage pregnancies are 18 years of age in which 79.9% of the teenage pregnancy are term age of gestation. Among 1009 teenage pregnancies, the majority (89.9%) gave live births and about 8% teenage pregnancy went through abortion. Among 88 teenage pregnancy, almost two third abortion cases were spontaneous abortion with 65.9%.

Table 2: Characteristics of teenage pregnancy

Characteristics	Frequency (n)	Percentage (%)
Age in years (Median age = 18), N=1097		
Fifteen years	14	1.3
Sixteen years	63	5.7
Seventeen years	188	17.1
Eighteen years	380	34.6
Nineteen years	452	41.2
Total	1097	100
Gestational Age (includes MVA n=88)		
Preterm	188	17.1
Term	876	79.9
Post term	33	3.0
Total	1097	100
Mode of delivery (n=1009)		
Normal	872	79.5
Instrumental	75	6.8
Cesarean section	62	5.7
Total	1009	100
Pregnancy Outcome (n=1009)		
Abortion	88	8.0
Still birth	23	2.1
Live birth	986	89.9
Total	1009	100
Type of abortion (n=88)		
Induced	18	20.5
Induced due to medical condition	12	13.6
Spontaneous	58	65.9
Total	88	100

Table 3 shows, that 89.9% of teenage mothers had live deliveries, 97.7% of delivered neonate was live discharge from hospital. APGAR score at 1 minute and at 5 minutes both 84.2% and 94.6% respectively fall under 7-10 score of grading of APGAR.

Table 3: Pregnancy outcome related study variables

Characteristics	Frequency (n)	Percentage (%)
Pregnancy outcome (n=1097)		
Abortion	88	8.0
Still birth	23	2.1
Live birth	986	89.9
Total	1097	100
Neonatal outcome at discharge (n=1009)		
Alive	986	97.7
Dead	23	2.3
Total	1009	100
Maternal outcome at discharge (n=1009)		
Alive	1009	100
Dead	0	0
Total	1009	100
APGAR score at 1 minute (n=1009)		
0-3	32	3.2
4-6	127	12.6
7-10	850	84.2
Total	1009	100
APGAR score at 5 minutes (n=1009)		
0-3	23	2.3
4-6	31	3.1
7-10	955	94.6
Total	1009	100

The table 4 shows, the relationship between teenage with pregnancy and outcome. Majority had live birth, some had abortion and few even had stillbirth.

Table 4: Teen Age and pregnancy outcome (n=1097)

Age	Pregnancy outcome			p-value
	Abortion	Still birth	Live birth	
	n (%)	n (%)	n (%)	
15 years	2 (14.3)	0 (0)	12 (85.7)	0.849
16 years	5 (7.9)	1 (1.6)	57 (90.5)	
17 years	17 (1.0)	2 (0.1)	1669 (98.9)	
18 years	25 (6.6)	10 (2.6)	345 (90.8)	
19 years	39 (8.6)	10 (2.2)	403 (89.2)	
Total	88	23	986	

Table 5 shows that 72.2% of teenage mothers had some degree of cephalopelvic disproportion of antenatal complication. Fetal distress (54.5%) was the most

common complication during delivery. Almost all (95%) had perineal tear as postnatal complication.

Table 5: Pregnancy complication related variables

Characteristics	Frequency (n)	Percentage (%)
Antenatal complications (n=18)		
CPD (Cephalopelvic disproportion)	13	72.2
Preeclampsia	1	5.6
Eclampsia	4	22.2
Total	18	100
Complication during delivery (n=33)		
Fetal distress	18	54.5
Prolonged labour	1	3.0
Obstructed labour	13	39.4
Others	1	3.0
Total	33	100
Postnatal complication (n=278)		
Postpartum hemorrhage	10	3.6
Perineal Tear	264	95.0
Others	4	1.4
Total	278	100

Discussions

The study shows the trend of teenage pregnancy at RAHS, Dang district, Nepal is in decreasing from 496 in 2018 to 196 in 2022. The pregnancy outcome describe as live birth, still birth and abortion. As an outcome, almost 90% of teenage pregnancy had live birth, followed by abortion (8%) and still birth (2.1%) which shows similar pattern with national pregnancy outcome of total pregnancy (includes all age group).¹⁴

The present study showed the pattern of teenage pregnancy over five years. Teenage pregnancy is global issue having morbidity and mortality in middle and low income countries.^{15,16} The prevalence of teenage pregnancy is high in Bangladesh 35% followed by Nepal and India 21% each.¹⁷ Teenage pregnancy is one of the most common risk factors for maternal and neonatal morbidity and mortality.¹⁸

In the present study, the prevalence of teenage pregnancy at age of 19 years was similar to other studies conducted in Nepal.^{12,19} Regarding the mode of delivery, 79.5% delivery as a normal. This finding differs with the other study conducted in Nepal.^{12,19,20} Most common maternal complication in teenage pregnancy was perineal tear (95%), which is found similar to the results of other studies conducted in Nepal and Southeast Asia.^{12,20} The present study shows, Almost 90% of pregnancy outcome is live birth, with around 8% of Abortion (8.0%), and very

complications seen in teenage pregnancy. Proper awareness and health education programs regarding adverse effects of teenage pregnancy might help to reduce teenage pregnancy rate in future.

References

- World Health Organization, "Contraception: Issues in Adolescent Health and Development," WHO Discuss. Pap. Adolesc., p. 36, 2014.
- J. E. Darroch, V. Woog, A. Bankole, and L. S. Ashford, "Adding It Up: Costs and Benefits of Meeting the Contraceptive Needs of Adolescents | Guttmacher Institute," Guttmacher.org, no. May 2016, 2016.
- W.H.O, "Adolescent pregnancy fact sheet," Adolesc. Pregnancy Fact Sheet, p. 1, 2014.
- Department of Health Service, "Annual Health Report 2078-79," 2018.
- CBS, "Nepal Multiple Indicator Cluster Survey 2019, Survey Findings Report. Kathmandu, Nepal: Central Bureau of Statistics and UNICEF Nepal," Report, 2020.
- Ministry of Health and Population; Nepal; New ERA; and ICF, "NDHS Key findings," Kathmandu, Nepal, 2022.
- N. Stone, R. Ingham, and P. Simkhada, "Knowledge of sexual health issues among unmarried young people in Nepal," *Asia-Pacific Popul. J.*, vol. 18, no. 2, pp. 33-54, 2003
DOI: [10.18356/df96a947-en](https://doi.org/10.18356/df96a947-en)
- X. K. Chen, S. W. Wen, N. Fleming, K. Demissie, G. G. Rhoads, and M. Walker, "Teenage pregnancy and adverse birth outcomes: A large population based retrospective cohort study," *Int. J. Epidemiol.*, vol. 36, no. 2, pp. 368-373, 2007
DOI: [10.1093/ije/dyl284](https://doi.org/10.1093/ije/dyl284)
PMID: 17213208
- World Health Organization, "Pregnant Adolescents -- Delivering on Global Promises of Hope," World Health, pp. 1-31, 2006.
- K. Nagandla and K. Kumar, "Prevalence of teenage pregnancy in 2015-2016 and its obstetric outcomes compared to non-teenage pregnancy at Hospital Tuanku Ja'afar Seremban (HTJS), Negeri Sembilan, Malaysia: A retrospective case-control study based on the national obstetric registry," *Malaysian Fam. Physician*, vol. 15, no. 2, pp. 2-9, 2020.
- L. Nuwabaine, Q. Sserwanja, K. Kamara, and M. W. Musaba, "Prevalence and factors associated with teenage pregnancy in Sierra Leone: evidence from a nationally representative Demographic and Health Survey of 2019," *BMC Public Health*, vol. 23, no. 1, pp. 1-8, 2023
DOI: [10.1186/s12889-023-15436-x](https://doi.org/10.1186/s12889-023-15436-x)
PMID: 36941568 PMCID: PMC10026389
- M. Maharjan et al., "Prevalence of Teenage Pregnancy in A Community Hospital of Rural Nepal: A Cross-sectional Study," *J. Nepal Med. Assoc.*, vol. 57, no. 217, pp. 176-180, 2019
DOI: [10.31729/jnma.4083](https://doi.org/10.31729/jnma.4083)
PMID: 31477958 PMCID: PMC8827503
- V. R. Krishna Madala, K. Gangadharan, P. Shivaraju, and D. Mateti, "Prevalence of teenage pregnancy and its obstetric and perinatal outcomes in a rural tertiary care hospital," *Int. J. Reprod. Contraception, Obstet. Gynecol.*, vol. 9, no. 10, p. 3989, 2020
DOI: [10.18203/2320-1770.ijrcog20204005](https://doi.org/10.18203/2320-1770.ijrcog20204005)
- Ministry of Health and Population [Nepal], "Nepal Demographic and Health Survey 2022," 2023.
- B. B. Gubhaju, "Adolescent reproductive health in Asia," *Asia-Pacific Popul. J.*, vol. 17, no. 4, pp. 97-119, 2002
DOI: [10.18356/0906f73a-en](https://doi.org/10.18356/0906f73a-en)
- United Nations, "The Millennium Development Goals Report," United Nations, p. 72, 2015, doi: 978-92-1-101320-7.
- A. D. Raj, B. Rabi, P. Amudha, R. van Teijlingen Edwin, and C. Glyn, "Factors associated with teenage pregnancy in South Asia: A systematic review," *Heal. Sci. J.*, vol. 4, no. 1, pp. 3-14, 2010.
- "Teenage Pregnancy : Complexities and Challenges Teenage Pregnancy : Complexities and Challenges," no. April 2006, 2020, doi: 10.31729/jnma.513.
- "21613-Article Text-67993-1-10-20181112."
- A. Prasad, G. Bhandari, and R. Saha, "5_Nepal_752-Article Text-2321-1-10-20170908," vol. 15, no. 2, pp. 110-113, 2017.
DOI: [10.3126/jnhrc.v15i2.18165](https://doi.org/10.3126/jnhrc.v15i2.18165)
- Ramachandra C, Roopa NK, Rekha N, Shankaregowda, Nirupama Y S. "The Impact of Teenage Pregnancy on Maternal and Perinatal Outcome," *Int. J. Med. Res. Heal. Sci.*, vol. 5, pp. 149-152, 2016
- R. D., K. Naik, R. M. Desai, and S. Tungal, "Study of fetomaternal outcome of teenage pregnancy at tertiary care hospital," *Int. J. Reprod. Contraception, Obstet. Gynecol.*, vol. 6, no. 7, p. 2841, 2017
DOI: [10.18203/2320-1770.ijrcog20172610](https://doi.org/10.18203/2320-1770.ijrcog20172610)